

B-88: Brown plant hopper outbreak in Maha 97/98 in the Anuradhapura District

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Brown plant hopper (BPH) damage in rice was the major production constraint in Maha 97/98 in areas where the extent under rice cultivation was high. Therefore, a survey was conducted during the latter part of the same season to identify the causes for BPH outbreak in the Anuradhapura district where one-fifth of the total rice extent was located.

Compared to lower day and night temperatures prevailing in December and January in a normal Maha season, day temperature in the 97/98 Maha was around 28°C which was favourable for the population build up of BPH while night temperature was around 25°C in the first week of November dropped down and maintained around 23°C up to January 98 which was favourable for egg development and hatching of BPH. Comparatively higher number of rainy days per week resulted in a substantial amount of standing water in the paddy fields from November to January which had been the cause for a comparatively higher humidity under the canopy of the crop. Thus, the ideal temperature and humidity prevailed in the micro environment of the niche of BPH had been the major cause to trigger off the outbreak in December and January. Seventy five percent of the severely damaged rice fields were found to be planted from October to mid November. These early planted crops had been in the ideal vegetative stage when the environmental factors were favourable for the rapid development of BPH population.

High density of the rice crop resulted due to high seed rates used by farmers (80%), indiscriminate use of insecticide which leads to high mortality rates of natural enemies while BPH are safe under the dense crop, use of excessively high and low rates of nitrogen fertilizer (74%) consequently reducing the plant vigour had been the additional factors favourable for the BPH outbreak.

Establishment of a surveillance system and developing a method for forecasting BPH populations together with conducting farmer awareness programmes for BPH control would be the measures necessary to minimize BPH damage.